

From wang!elf.wang.com!ucsd.edu!info-hams-relay Mon Apr 15 10:42:01 1991 remote  
from tosspot  
Received: by tosspot (1.64/waf)  
via UUCP; Wed, 17 Apr 91 07:12:05 EST  
for lee  
Received: from somewhere by elf.wang.com  
id aa05452; Mon, 15 Apr 91 10:42:00 GMT  
Received: from ucsd.edu by relay1.UU.NET with SMTP  
(5.61/UUNET-shadow-mx) id AA17231; Mon, 15 Apr 91 06:05:00 -0400  
Received: by ucsd.edu; id AA09475  
sendmail 5.64/UCSD-2.1-sun  
Mon, 15 Apr 91 00:42:36 -0700 for nixbur!schroeder.pad  
Received: by ucsd.edu; id AA09460  
sendmail 5.64/UCSD-2.1-sun  
Mon, 15 Apr 91 00:42:29 -0700 for /usr/lib/sendmail -oc -odb -oQ/var/spool/  
lqueue -oi -finfo-hams-relay info-hams-list  
Message-Id: <9104150742.AA09460@ucsd.edu>  
Date: Mon, 15 Apr 91 00:42:26 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>  
Reply-To: Info-Hams@ucsd.edu  
Subject: Info-Hams Digest V91 #297  
To: Info-Hams@ucsd.edu

Info-Hams Digest                      Mon, 15 Apr 91                      Volume 91 : Issue 297

Today's Topics:

50 to 75 ohm transformer???  
am  
AMSAT ORBITAL ELEMENTS  
FCC testing  
Heathkit - End of an Era?  
Info-Hams Digest V91 #286  
large 110->220 transformers  
PACKET SOLAR TERRESTRIAL FORECAST (1/2)  
PACKET SOLAR TERRESTRIAL FORECAST (2/2)  
POTENTIAL MAJOR SOLAR FLARE WARNING  
Shuttle Packet No-Show

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official

policies or positions of any party. Your mileage may vary. So there.

Date: 13 Apr 91 17:48:35 GMT  
From: swrinde!mips!daver!dlb!zygot!bolero!duncan@ucsd.edu  
Subject: 50 to 75 ohm transformer???  
To: info-hams@ucsd.edu

In article <1991Apr10.200010.24953@panix.uucp> joseph@panix.uucp (Joseph R. Skoler) writes:

>I have at my disposal 3/4 inch hardline (about 2000 feet of it) and would  
>love to put it to good use. The problem is, it's 75 ohm stuff.  
>So, my question is: Are matching transformers made which match 50 to  
>75 ohms and can handle substantial power (100 watts) at UHF frequencies?

>  
If I were you, I'd just try the line as is without any special transformers. The slight system losses, if any, caused here would certainly be offset by the rather low loss characteristic of this big line. In general, the theoretical VSWR in a 75/52 mismatch would roughly be just that -  $75/52 = 1.4$ . Of course, there are a number of factors here. The odds are greater than 50/50 that you would get great results without any special transformers. Have that Bird wattmeter handy and just go for it. If there are problems, then worry about it.

I routinely use foam RG6 and F-connectors/adapters wherever most people would use (awful) RG58. Measurements with the Bird wattmeter or the IFR have confirmed no real problems with this. In the ultimate heresy, I even connected up my Radio Shack CB transceiver with F-connectors and RG6; no problem. Similarly, my Icom U400 radio didn't mind it a bit at UHF for 20' (I prefer super low loss 9913 for longer runs).

In the (very unlikely) event that you need transformers here, you would probably want to make the "coaxial" type from instructions in antenna books or occasional Ham Radio articles, etc..

```

--
KUFX |          w  ["]          | WA6MBV
94.5 |...    |____|_____..duncan@bolero.ati.com | Jim Duncan
FM    |          H                | +1 408 297 5977
      | \____I_____/  37 3 10N/121 59 10W -----

```

Date: 14 Apr 91 23:57:09 GMT  
From: swrinde!cs.utexas.edu!asuvax!ukma!usenet.ins.cwru.edu!tut.cis.ohio-state.edu!n8emr!gws@ucsd.edu  
Subject: am  
To: info-hams@ucsd.edu

```
=====
|           Relayed from AMSAT BBS NETWORK           |
|           N8EMR's Ham BBS, 614-895-2553           |
=====
```

SB ALL @ AMSAT       \$ANS-104.01  
AO-16 BBS TEMPORARILY OFF

HR AMSAT NEWS SERVICE BULLETIN 104.01 FROM AMSAT HQ  
SILVER SPRING, MD APRIL 14, 1991  
TO ALL RADIO AMATEURS BT

#### Filled Memory Buffers Cause Temporary Outage of AO-16/L0-19 Bulletin Boards

This week the AO-16 file server software, known as FTL0, encountered an anomaly which caused the AMSAT Software Engineers "scratch their heads" for awhile trying to figure out what had happend. It appears that a software bug in the file server caused many memory buffers to fill up but not be allowed to release when they were finished being used. Memory buffers are quite common in BBS and packet TNC software because they hold the packets until they are ready to be sent to the proper memory location or until transmitted. Thus, when uploading or downling a file, the contents always pass through numerous buffers both in the orbiting software and in ground station equipment.

NK6K feels that it took a very special set of circumstances for this problem to manifest itself. One of the conditions was heavy usage of the BBS. NK6K has completed work on a "patch" which has fixed the problem, which should not be a concern in the future. It is believed that this is the same problem which caused L0-19 to crash about ten days ago. Both AO-16 and L0-19 will have their file server software "patched." The advantage of "patch" procedure is that no files will be lost on the spacecraft and a complete reload of the BBS software will not be necessary.

It is the opinion of the Software Engineers that this sort of problem will eventually disappear and users will be left with a stable and problem-free file server system.

/EX

SB ALL @ AMSAT       \$ANS-104.02  
SAREX FSATV OPERATION

HR AMSAT NEWS SERVICE BULLETIN 104.02 FROM AMSAT HQ  
SILVER SPRING, MD APRIL 14, 1991  
TO ALL RADIO AMATEURS BT

Successful Fast Scan Amateur TV Reception by STS-37

Ken Cameron, KB5AWP, Pilot on the Space Shuttle Atlantis, reported good FSATV reception from the selected ground stations on at least four orbits of the STS-37 space shuttle Atlantis mission. Typically, his reports were brief because his talk back on 2 meters caused some interference to the video. He also asked for FSATV transmissions which he recorded on a VCR in the shuttle while he was too busy with other duties to be in attendance. Picture quality was reported as P4 or better. Most pictures were black-and-white, but some color reception was reported.

This is the first Full Motion Video signal ever received by any orbiting manned spacecraft. In a past SAREX Mission, STS-51F, (which carried Tony England, W00RE) Slow Scan TV was uplinked from ground based stations. The FSATV experiment is being looked at by NASA as an inexpensive mechanism to transmit detailed imaging information to the astronauts while in orbit

Only a handful of stations were chosen to attempt the FSATV experiment with STS-37. An STA from the FCC was required because the wide bandwidth required for FSATV (6 MHz) could not be completely contained in the 435 - 438 MHz Satellite sub-band of 70 cm Amateur band. The successful uplinking stations were using moonbounce or near-moonbounce class transmissions, several hundred watts of power to antenna arrays of much higher gain than a typical OSCAR station.

AMSAT congratulates KC6A, WA4NZD and N9AB for their success with this Shuttle "First". Also participating in the experiment was W5RRR, WB4APR and KE4PT. However, due to unfavorable orbiter attitudes during their designated transmission periods, they were unsuccessful in having their signal received by STS-37.

ANS thanks Gerry Creager, N5JXS, and Andy Bachler, N9AB for the information for this bulletin]

/EX

SB ALL @ AMSAT       \$ANS-104.03  
OPERATIONS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 104.03 FROM AMSAT HQ  
SILVER SPRING, MD APRIL 14, 1991  
TO ALL RADIO AMATEURS BT

AMSAT-NA Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B nets are conducted on an A0-13 downlink frequency of 145.950. Mode J/L nets are conducted on an A0-13 downlink frequency of 435.970.

Date	UTC	Mode	Phs	NCS	Alternates		U.S. day
17 Apr 91	0330	J/L	97	WB6LLO	N5BF	WJ9F	Tuesday
28 Apr 91	0300	J/L	102	N5BF	WD0E	WB6LLO	Saturday
04 May 91	2100	B	141	WB9ANQ	KA5SMA	WJ9F	Saturday
12 May 91	0100	B	149	WA5ZIB	KA5SMA	WB6LLO	Saturday

The Operations Net features guest speakers approximately every other week to provide up-to-the-minute information on topics of interest to various sorts of satellite users. Watch ANS for information on guest speakers and topics.

/EX

SB ALL @ AMSAT \$ANS-0104.04

NEW AO-13 TRANSPONDER SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 104.04 FROM AMSAT HQ  
SILVER SPRING, MD APRIL 14 1991  
TO ALL RADIO AMATEURS BT

AO-13 Spring Schedule Announced, AO-10 Not Presently Available

The current schedule is:

Off : MA 220 to MA 035 |  
Mode-B : MA 035 to MA 220 |  
Omins : MA 240 to MA 060 |

Once the magnetorquing is completed, the "27 March 91" schedule will be instituted.

The AO-13 transponder schedule through 19 June 91 will be:

Mode-B : MA 000 to MA 095 !  
Mode-JL : MA 095 to MA 125 !  
Mode-LS : MA 125 to MA 130 !  
Mode-S : MA 130 to MA 140 !  
Mode-BS : < discontinued > !  
Mode-B : MA 140 to MA 256 !  
Omnis : MA 240 to MA 030 !

The target Spacecraft attitude (once magnetorquing is complete) is:

BLON = 180 BLAT = 0

Currently, OSCAR-10 is obviously not receiving sufficient solar panel illumination to support even the beacon much less the transponder.

PLEASE DO NOT attempt to use OSCAR-10 until further notice. This period of dormancy is expected to last for several months. As soon as OSCAR-10 can support Mode-B transponder operations it will once again be released for general use. Early reports of OSCAR-10's beacon returning to full strength can be sent to VK5AGR @ PACSAT-1, @ UOSAT-3, @ 8J1JBS, or @ VK5WI. 73, Graham VK5AGR

/EX

--

Gary W. Sanders (gws@n8emr or ...!osu-cis!n8emr!gws), 72277,1325  
N8EMR @ W8CQK (ip addr) 44.70.0.1 [Ohio AMPR address coordinator]  
HAM BBS 614-895-2553  
Voice: 614-895-2552 (eves/weekends)

-----

Date: 14 Apr 91 23:59:38 GMT  
From: swrinde!zaphod.mps.ohio-state.edu!wuarchive!ukma!usenet.ins.cwru.edu!  
tut.cis.ohio-state.edu!n8emr!gws@ucsd.edu  
Subject: AMSAT ORBITAL ELEMENTS  
To: info-hams@ucsd.edu

=====  
| Relayed from AMSAT BBS NETWORK |  
| N8EMR's Ham BBS, 614-895-2553 |  
=====

SB KEPS @ AMSAT \$ORBS- 103.0  
Orbital Elements 103.0SCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES  
FROM N3FKV HEWITT, TX April 13, 1991  
TO ALL RADIO AMATEURS BT

Satellite: A0-10  
Catalog number: 14129  
Epoch time: 91097.32732770  
Element set: 646  
Inclination: 25.8493 deg  
RA of node: 151.9623 deg  
Eccentricity: 0.6008503  
Arg of perigee: 231.4593 deg  
Mean anomaly: 58.2833 deg  
Mean motion: 2.05882614 rev/day  
Decay rate: 2.4e-07 rev/day^2  
Epoch rev: 3079

Satellite: U0-11

Catalog number: 14781  
Epoch time: 91100.55782054  
Element set: 958  
Inclination: 97.9062 deg  
RA of node: 147.8519 deg  
Eccentricity: 0.0013177  
Arg of perigee: 26.3107 deg  
Mean anomaly: 333.8550 deg  
Mean motion: 14.66666030 rev/day  
Decay rate: 3.994e-05 rev/day^2  
Epoch rev: 37953

Satellite: RS-10/11  
Catalog number: 18129  
Epoch time: 91101.77718635  
Element set: 580  
Inclination: 82.9217 deg  
RA of node: 107.9361 deg  
Eccentricity: 0.0012309  
Arg of perigee: 18.7583 deg  
Mean anomaly: 341.3991 deg  
Mean motion: 13.72171787 rev/day  
Decay rate: 5.48e-06 rev/day^2  
Epoch rev: 19048

Satellite: A0-13  
Catalog number: 19216  
Epoch time: 91078.38609337  
Element set: 242  
Inclination: 56.8112 deg  
RA of node: 104.6916 deg  
Eccentricity: 0.7140389  
Arg of perigee: 249.8316 deg  
Mean anomaly: 25.0884 deg  
Mean motion: 2.09695125 rev/day  
Decay rate: 2.15e-06 rev/day^2  
Epoch rev: 2114

Satellite: F0-20  
Catalog number: 20480  
Epoch time: 91093.91871044  
Element set: 190  
Inclination: 99.0237 deg  
RA of node: 90.1908 deg  
Eccentricity: 0.0541434  
Arg of perigee: 109.7385 deg  
Mean anomaly: 256.2927 deg  
Mean motion: 12.83174670 rev/day

Decay rate: 4.3e-07 rev/day^2  
Epoch rev: 5403

Satellite: A0-21  
Catalog number: 21087  
Epoch time: 91097.92087855  
Element set: 29  
Inclination: 82.9416 deg  
RA of node: 285.7220 deg  
Eccentricity: 0.0036823  
Arg of perigee: 93.3127 deg  
Mean anomaly: 267.2243 deg  
Mean motion: 13.74365046 rev/day  
Decay rate: 2.79e-06 rev/day^2  
Epoch rev: 937

Satellite: RS-12/13  
Catalog number: 21089  
Epoch time: 91097.63499873  
Element set: 31  
Inclination: 82.9281 deg  
RA of node: 156.4059 deg  
Eccentricity: 0.0030239  
Arg of perigee: 112.8985 deg  
Mean anomaly: 247.5358 deg  
Mean motion: 13.73884127 rev/day  
Decay rate: 2.84e-06 rev/day^2  
Epoch rev: 845

/EX

SB KEPS @ AMSAT \$ORBS- 103.D  
Orbital Elements 103.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS  
FROM N3FKV HEWITT, TX April 13, 1991  
TO ALL RADIO AMATEURS BT

Satellite: U0-14  
Catalog number: 20437  
Epoch time: 91102.19987967  
Element set: 327  
Inclination: 98.6689 deg  
RA of node: 182.0325 deg  
Eccentricity: 0.0011166  
Arg of perigee: 5.6581 deg  
Mean anomaly: 354.4337 deg  
Mean motion: 14.29044588 rev/day  
Decay rate: 1.197e-05 rev/day^2



Epoch rev: 6356

Satellite: A0-16

Catalog number: 20439

Epoch time: 91102.23899255

Element set: 219

Inclination: 98.6743 deg

RA of node: 182.3695 deg

Eccentricity: 0.0011900

Arg of perigee: 8.1550 deg

Mean anomaly: 351.9729 deg

Mean motion: 14.29135378 rev/day

Decay rate: 1.191e-05 rev/day<sup>2</sup>

Epoch rev: 6357

Satellite: D0-17

Catalog number: 20440

Epoch time: 91102.22307942

Element set: 218

Inclination: 98.6742 deg

RA of node: 182.3927 deg

Eccentricity: 0.0011905

Arg of perigee: 9.4054 deg

Mean anomaly: 350.7186 deg

Mean motion: 14.29212936 rev/day

Decay rate: 1.295e-05 rev/day<sup>2</sup>

Epoch rev: 6357

Satellite: W0-18

Catalog number: 20441

Epoch time: 91098.62500630

Element set: 217

Inclination: 98.6723 deg

RA of node: 178.8625 deg

Eccentricity: 0.0012888

Arg of perigee: 16.0879 deg

Mean anomaly: 344.0710 deg

Mean motion: 14.29256413 rev/day

Decay rate: 1.030e-05 rev/day<sup>2</sup>

Epoch rev: 6306

Satellite: L0-19

Catalog number: 20442

Epoch time: 91098.67315919

Element set: 219

Inclination: 98.6722 deg

RA of node: 178.9615 deg

Eccentricity: 0.0012935

Arg of perigee: 16.0300 deg  
Mean anomaly: 344.1292 deg  
Mean motion: 14.29331789 rev/day  
Decay rate: 9.48e-06 rev/day^2  
Epoch rev: 6307

/EX

SB KEPS @ AMSAT \$ORBS- 103.W  
Orbital Elements 103.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES  
FROM N3FKV HEWITT, TX April 13, 1991  
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9  
Catalog number: 15427  
Epoch time: 91102.28360107  
Element set: 725  
Inclination: 99.1729 deg  
RA of node: 114.2159 deg  
Eccentricity: 0.0014121  
Arg of perigee: 248.7678 deg  
Mean anomaly: 111.1989 deg  
Mean motion: 14.12944064 rev/day  
Decay rate: 9.55e-06 rev/day^2  
Epoch rev: 32621

Satellite: NOAA-10  
Catalog number: 16969  
Epoch time: 91097.93691543  
Element set: 567  
Inclination: 98.5720 deg  
RA of node: 123.9135 deg  
Eccentricity: 0.0014050  
Arg of perigee: 129.2742 deg  
Mean anomaly: 230.9686 deg  
Mean motion: 14.24039231 rev/day  
Decay rate: 1.129e-05 rev/day^2  
Epoch rev: 23655

Satellite: MET-2/17  
Catalog number: 18820  
Epoch time: 91101.97922738  
Element set: 470  
Inclination: 82.5410 deg  
RA of node: 112.9383 deg  
Eccentricity: 0.0015594  
Arg of perigee: 200.6880 deg

Mean anomaly: 159.3653 deg  
Mean motion: 13.84468190 rev/day  
Decay rate: 1.81e-06 rev/day^2  
Epoch rev: 16152

Satellite: MET-3/2  
Catalog number: 19336  
Epoch time: 91098.88766015  
Element set: 718  
Inclination: 82.5420 deg  
RA of node: 68.2237 deg  
Eccentricity: 0.0016200  
Arg of perigee: 297.4131 deg  
Mean anomaly: 62.5317 deg  
Mean motion: 13.16916870 rev/day  
Decay rate: 4.8e-07 rev/day^2  
Epoch rev: 12987

Satellite: NOAA-11  
Catalog number: 19531  
Epoch time: 91099.26633402  
Element set: 477  
Inclination: 99.0242 deg  
RA of node: 53.5690 deg  
Eccentricity: 0.0012222  
Arg of perigee: 164.8291 deg  
Mean anomaly: 195.3252 deg  
Mean motion: 14.12059942 rev/day  
Decay rate: 1.228e-05 rev/day^2  
Epoch rev: 13074

Satellite: MET-2/18  
Catalog number: 19851  
Epoch time: 91101.08966956  
Element set: 423  
Inclination: 82.5245 deg  
RA of node: 351.0991 deg  
Eccentricity: 0.0012668  
Arg of perigee: 250.6466 deg  
Mean anomaly: 109.3304 deg  
Mean motion: 13.84114412 rev/day  
Decay rate: 4.66e-06 rev/day^2  
Epoch rev: 10677

Satellite: MET-3/3  
Catalog number: 20305  
Epoch time: 91097.77461293  
Element set: 331

Inclination: 82.5534 deg  
RA of node: 10.2239 deg  
Eccentricity: 0.0016199  
Arg of perigee: 317.8402 deg  
Mean anomaly: 42.1537 deg  
Mean motion: 13.15945690 rev/day  
Decay rate: 4.3e-07 rev/day^2  
Epoch rev: 6969

Satellite: MET-2/19  
Catalog number: 20670  
Epoch time: 91097.99738135  
Element set: 167  
Inclination: 82.5445 deg  
RA of node: 54.6394 deg  
Eccentricity: 0.0015199  
Arg of perigee: 175.3570 deg  
Mean anomaly: 184.7737 deg  
Mean motion: 13.83937039 rev/day  
Decay rate: 2.96e-06 rev/day^2  
Epoch rev: 3929

Satellite: FY-1/2  
Catalog number: 20788  
Epoch time: 91096.95367471  
Element set: 129  
Inclination: 98.9462 deg  
RA of node: 131.9327 deg  
Eccentricity: 0.0015324  
Arg of perigee: 18.7930 deg  
Mean anomaly: 341.3802 deg  
Mean motion: 14.01105772 rev/day  
Decay rate: 4.51e-06 rev/day^2  
Epoch rev: 3023

Satellite: MET-2/20  
Catalog number: 20826  
Epoch time: 91098.05674273  
Element set: 123  
Inclination: 82.5323 deg  
RA of node: 353.6736 deg  
Eccentricity: 0.0014884  
Arg of perigee: 73.0832 deg  
Mean anomaly: 287.1957 deg  
Mean motion: 13.83324362 rev/day  
Decay rate: 5.60e-06 rev/day^2  
Epoch rev: 2651

/EX

SB KEPS @ AMSAT \$ORBS- 103.M

Orbital Elements 103.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES  
FROM N3FKV HEWITT, TX April 13, 1991  
TO ALL RADIO AMATEURS BT

Satellite: MIR

Catalog number: 16609

Epoch time: 91102.48688569

Element set: 0367

Inclination: 051.6003 deg

RA of node: 260.5991 deg

Eccentricity: 0.0008063

Arg of perigee: 166.2503 deg

Mean anomaly: 193.9391 deg

Mean motion: 15.65721029 rev/day

Decay rate: 6.8943e-04 rev/day^2

Epoch rev: 29487

Satellite: HUBBLE

Catalog number: 20580

Epoch time: 91096.43773098

Element set: 404

Inclination: 28.4694 deg

RA of node: 180.9716 deg

Eccentricity: 0.0005316

Arg of perigee: 285.1837 deg

Mean anomaly: 74.8140 deg

Mean motion: 14.87108812 rev/day

Decay rate: 7.170e-05 rev/day^2

Epoch rev: 5162

/EX

SB KEPS @ AMSAT \$ORBS- 103.N

2-Line Orbital Elements 103.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT  
FROM N3FKV HEWITT, TX April 13, 1991

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:

1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ

2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ

KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN  
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10

1 14129U 83 58 B 91097.32732770 .00000024 00000-0 99999-4 0 6462  
2 14129 25.8493 151.9623 6008503 231.4593 58.2833 2.05882614 30790

UO-11

1 14781U 84 21 B 91100.55782054 .00003994 00000-0 72541-3 0 9585  
2 14781 97.9062 147.8519 0013177 26.3107 333.8550 14.66666030379531

NOAA-9

1 15427U 84123 A 91102.28360107 .00000955 00000-0 53396-3 0 7252  
2 15427 99.1729 114.2159 0014121 248.7678 111.1989 14.12944064326211

MIR

1 16609U 86017 A 91102.48688569 .00068943 00000-0 66604-3 0 03675  
2 16609 051.6003 260.5991 0008063 166.2503 193.9391 15.65721029294874

NOAA-10

1 16969U 86 73 A 91097.93691543 .00001129 00000-0 50757-3 0 5672  
2 16969 98.5720 123.9135 0014050 129.2742 230.9686 14.24039231236559

RS-10/11

1 18129U 87 54 A 91101.77718635 .00000548 00000-0 59013-3 0 5805  
2 18129 82.9217 107.9361 0012309 18.7583 341.3991 13.72171787190482

MET-2/17

1 18820U 88 5 A 91101.97922738 .00000181 00000-0 15094-3 0 4705  
2 18820 82.5410 112.9383 0015594 200.6880 159.3653 13.84468190161527

AO-13

1 19216U 88 51 B 91078.38609337 .00000215 00000-0 44351-3 0 2424  
2 19216 56.8112 104.6916 7140389 249.8316 25.0884 2.09695125 21140

MET-3/2

1 19336U 88 64 A 91098.88766015 .00000048 00000-0 10600-3 0 7187  
2 19336 82.5420 68.2237 0016200 297.4131 62.5317 13.16916870129872

NOAA-11

1 19531U 88 89 A 91099.26633402 .00001228 00000-0 69016-3 0 4775  
2 19531 99.0242 53.5690 0012222 164.8291 195.3252 14.12059942130744

MET-2/18

1 19851U 89 18 A 91101.08966956 .00000466 00000-0 40853-3 0 4232  
2 19851 82.5245 351.0991 0012668 250.6466 109.3304 13.84114412106772

MET-3/3

1 20305U 89 86 A 91097.77461293 .00000043 00000-0 99999-4 0 3312  
2 20305 82.5534 10.2239 0016199 317.8402 42.1537 13.15945690 69692

UO-14

1 20437U 90 5 B 91102.19987967 .00001197 00000-0 48882-3 0 3275  
2 20437 98.6689 182.0325 0011166 5.6581 354.4337 14.29044588 63569

AO-16

1 20439U 90 5 D 91102.23899255 .00001191 00000-0 48525-3 0 2192  
2 20439 98.6743 182.3695 0011900 8.1550 351.9729 14.29135378 63571

DO-17

1 20440U 90 5 E 91102.22307942 .00001295 00000-0 52544-3 0 2180  
2 20440 98.6742 182.3927 0011905 9.4054 350.7186 14.29212936 63578

WO-18

1 20441U 90 5 F 91098.62500630 .00001030 00000-0 42067-3 0 2173

2 20441 98.6723 178.8625 0012888 16.0879 344.0710 14.29256413 63064  
 L0-19  
 1 20442U 90 5 G 91098.67315919 .00000948 00000-0 38790-3 0 2190  
 2 20442 98.6722 178.9615 0012935 16.0300 344.1292 14.29331789 63073  
 F0-20  
 1 20480U 90 13 B 91093.91871044 .00000043 00000-0 14529-3 0 1907  
 2 20480 99.0237 90.1908 0541434 109.7385 256.2927 12.83174670 54031  
 HUBBLE  
 1 20580U 91096.43773098 .00007170 00000-0 76506-3 0 4044  
 2 20580 28.4694 180.9716 0005316 285.1837 74.8140 14.87108812 51629  
 MET-2/19  
 1 20670U 90 57 A 91097.99738135 .00000296 00000-0 25671-3 0 1675  
 2 20670 82.5445 54.6394 0015199 175.3570 184.7737 13.83937039 39295  
 FY-1/2  
 1 20788U 90 81 A 91096.95367471 .00000451 00000-0 32324-3 0 1292  
 2 20788 98.9462 131.9327 0015324 18.7930 341.3802 14.01105772 30231  
 MET-2/20  
 1 20826U 90 86 A 91098.05674273 .00000560 00000-0 49983-3 0 1238  
 2 20826 82.5323 353.6736 0014884 73.0832 287.1957 13.83324362 26512  
 A0-21  
 1 21087U 91 6 A 91097.92087855 .00000279 00000-0 28284-3 0 293  
 2 21087 82.9416 285.7220 0036823 93.3127 267.2243 13.74365046 9377  
 RS-12/13  
 1 21089U 91 7 A 91097.63499873 .00000284 00000-0 29183-3 0 319  
 2 21089 82.9281 156.4059 0030239 112.8985 247.5358 13.73884127 8458  
 /EX

--

Gary W. Sanders (gws@n8emr or ...!osu-cis!n8emr!gws), 72277,1325  
 N8EMR @ W8CQK (ip addr) 44.70.0.1 [Ohio AMPR address coordinator]  
 HAM BBS 614-895-2553  
 Voice: 614-895-2552 (eves/weekends)

-----  
 Date: 15 Apr 91 03:40:09 GMT  
 From: hub.ucsb.edu!ucsbuxa!6600tjkd@ucsd.edu  
 Subject: FCC testing  
 To: info-hams@ucsd.edu

I'm COMPLETELY new to the idea of Ham radio stuff,  
 pretty much. But I've been toying about learning  
 Morse code and getting a licsense, now I've heard  
 about the elimination of the code requirement for  
 the "technician" class so could anyone tell me how  
 to prepare for and WHERE TO TAKE THE EXAM TO GET A  
 TECHNICIAN CLASS LISCENSE????

TIA

--

"Can This World Really Be As SAD As It Seems."  
-Nine Inch Nails

-----  
Date: 14 Apr 91 16:40:15 GMT  
From: uvaarpa!haven!ni.umd.edu!sayshell.umd.edu!louie@mcnc.org  
Subject: Heathkit - End of an Era?  
To: info-hams@ucsd.edu

>The lady who took my order told me that they are dumping all of the kit  
>business with the exception of the "High Demand" items like the GCA-1000 Most  
>Accurate Clock and the ID-5001C Weather Station. She said they are constantly  
>on back-order for these items.

Wow, this is really amazing considering that GCA-1000 Most Accurate  
Clock really isn't (all that accurate). I suppose that if you wanted  
time to the nearest second or tenth, its probably OK, but don't bother  
with the RS-232 interface. For a WWV synchronized clock, it really  
does a crummy job for semi-serious timekeeping. There plenty of room  
for improvment in the RF section as well as the RS-232 interface.

Its adaquate for sticking on the shelf and looking at it for the current  
time, but don't get too excited about using it for precision time.

louie  
WA3YMH

-----  
Date: 14 Apr 91 13:39:00 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Info-Hams Digest V91 #286  
To: info-hams@ucsd.edu

UNSUB INFO-HAMS

-----  
Date: 14 Apr 91 12:01:04 GMT  
From: nitrex!rbl@uunet.uu.net  
Subject: large 110->220 transformers  
To: info-hams@ucsd.edu

In article <gbwV9z\_00jVM4FsFs9@andrew.cmu.edu> dh1s+@andrew.cmu.edu (Donn Hoffman)  
writes:



|>I am moving to Spain and want to bring several appliances (eg:  
|>macintosh, fax, blender, stereo).  
|>  
|>Power in Spain is 220v/50hz. The appliances are all 110v. Some are  
|>labeled 60hz, some are labeled 50/60hz.  
|>  
|>I have a couple of questions:  
|>  
|>1. I am reluctant to trust my fax and mac to the cheap travel  
|>transformers sold at Akbar & Jeff's Luggage Hut. Is there some sort  
|>of larger, reliable transformer I can get to plug all (or several) of  
|>my appliances into?  
|>

Don't bother with plugging your Mac into the transformer. Macs use switching power supplies which run on anything up to 240v. Just get the appropriate physical adapters for the line cord plug to fit into the wall socket outlets.

Depending upon your clock radio ... it may or may not lose time on 50Hz. Mechanical ones will, almost certainly (10 minutes/hour). Some digital ones may, depending upon the label on the back/bottom of the clock radio.

Rob Lake  
BP Research  
lake@rcwcl1.dnet.bp.com

-----  
Date: 14 Apr 91 08:25:41 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: PACKET SOLAR TERRESTRIAL FORECAST (1/2)  
To: info-hams@ucsd.edu

\$STFR910414.1  
SOLAR TERRESTRIAL FORECAST (1/2) 14 APRIL 1991  
PACKET RADIO REPORT  
SOLAR TERRESTRIAL DISPATCH  
(PACKET: VE6BBM@VE6BBM.AB.CAN.NOAM)  
(INTERNET: OLER@HG.ULETH.CA)

VALID: 14 APR - 27 APR

PLEASE NOTE: When distributing this information, please MAKE SURE you do not use any other BID. The BID is the line containing "\$STFR...". This line must not be altered in any way, or multiple copies of the report will bounce around the packet networks causing unnecessary congestion. Please be aware of this when using the packet networks to distribute this information.

WARNINGS: POTENTIAL MAJOR SOLAR FLARE WARNING (CLASS M TO X POSSIBLE).

ALERTS : No alerts are in progress as of 03:00 UT, 14 April

#### 14-DAY SOLAR/RADIO/MAGNETIC/AURORAL ACTIVITY OUTLOOK

	10cm	HF Propagation +/- CON								VHF	SID ENH.				AU.BKSR				DX	Mag	Aurora		
	Flux	LO	MI	HI	PO	SWF	MUF	ERR	%	SIG	LO	MI	HI	LO	MI	HI	%	K	Ap	LO	MI	HI	
14	260 (H)	G	G	F	F	80	42	10	70	N	50	50	45	00	05	10	10	2	10	NV	NV	LO	
15	263 (H)	G	G	P	P	80	43	10	65	N	55	55	50	01	20	30	15	3	15	NV	LO	MO	
16	255 (H)	G	G	P	P	80	43	10	65	N	55	55	50	01	20	30	15	3	15	NV	LO	MO	
17	260 (H)	G	G	P	P	80	44	10	60	AN	55	55	50	02	15	30	15	3	15	NV	NV	MO	
18	260 (H)	G	G	F	F	80	44	10	60	AN	55	55	50	02	15	30	15	3	12	NV	NV	LO	
19	255 (H)	G	G	F	F	80	45	10	60	AN	55	55	50	02	15	30	15	3	12	NV	NV	LO	
20	250 (H)	G	G	P	P	80	45	10	60	N	55	55	50	02	15	35	15	3	15	NV	NV	LO	
21	245 (H)	G	G	P	P	80	45	10	60	N	55	55	50	01	15	30	10	3	15	NV	LO	MO	
22	240 (H)	G	G	F	F	70	45	10	60	AN	50	50	45	01	10	30	10	3	12	NV	LO	MO	
23	225 (M)	G	G	F	F	60	45	10	60	AN	50	50	45	01	10	25	10	2	10	NV	LO	MO	
24	220 (M)	G	G	F	F	60	44	10	60	N	50	50	45	01	10	25	10	2	10	NV	LO	LO	
25	220 (M)	G	G	P	P	60	44	10	60	N	50	50	45	01	20	35	15	3	12	NV	LO	LO	
26	215 (M)	G	F	P	P	55	44	10	60	N	50	50	45	00	30	45	25	4	18	NV	LO	MO	
27	215 (M)	G	F	P	P	55	44	10	60	N	50	50	45	00	30	45	30	4	20	NV	MO	MO	

NOTE: For information regarding the above format, consult part 2 (2/2) of this report in a separate message.

\*\* END OF PACKET REPORT (1/2) \*\*

-----  
Date: 14 Apr 91 08:27:41 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: PACKET SOLAR TERRESTRIAL FORECAST (2/2)  
To: info-hams@ucsd.edu

\$STFR910414.2  
SOLAR TERRESTRIAL FORECAST (2/2) 14 APRIL 1991  
PACKET RADIO REPORT  
SOLAR TERRESTRIAL DISPATCH  
(PACKET: VE6BBM@VE6BBM.AB.CAN.NOAM)  
(INTERNET: OLER@HG.ULETH.CA)

FORMAT OF SOLAR TERRESTRIAL FORECAST FOR PACKET RADIO NETWORK:

Date (day only)  
10.7 cm Radio Solar Flux  
Possible Solar Actvty (VL=Very Low, L=Low, M=Moderate, H=High, VH=Very High)  
HF Propagation Conditions for LOw, MIddle, HIgh, and POlar areas (see below)  
HF Short Wave Fade Probability (in %)  
HF Maximum Usable Frequency (in MHz) (weighted for low and middle latitudes).  
HF Potential MUF ERRor (in +/- MHz)  
HF Prediction CONfidence Level (in %)  
VHF SIGnal Quality (see below)  
VHF Sudden Ionospheric ENHancement Probs (in %) for LOw, MIddle, HIgh Lats  
VHF AUroral BackScatteR Probs (in %) for LOw, MIddle and HIgh Latitudes  
VHF Overall Global DX Potential (in %) - weighted for Low and Middle latitudes  
Geomagnetic Activity Kp Index (peak value - see below)  
GeoMAGnetic Activity Ap Index (peak value - see below)  
AURORA! Activity for LOw, MIddle and HIgh Latitudes (see below)

HF Prop. Quality rated as: EG=Extremely Good, VG=Very Good, G=Good, F=Fair,  
P=Poor, VP=Very Poor, EP=Extremely Poor.  
VHF Sig. Quality rated as: AN=Above Normal, N=Normal, BN=Below Normal,  
D=Disturbed (ex. associated with polar blackouts).  
Kp Planetary Index rated: 0=V.Quiet, 1=Quiet, 2=Unstld, 3=Active, 4=V.Active,  
5=Minor Storm, 6=Major Storm, 7=Maj-Sev Storm, 8=Severe Storm, 9=V.Severe.  
Ap Planetary Index rated: 0-7=Quiet, 8-16=Unstld, 17-29=Active,  
30-49=Minor Storm, 50-99=Major Storm, Severe Storm >=100.  
Auroral Activity rated: NV=Not Visible, L=Low, M=Moderate, H=High,  
VH=Very High.

\*\* END OF PACKET REPORT (2/2) \*\*

-----  
Date: 14 Apr 91 08:17:59 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: POTENTIAL MAJOR SOLAR FLARE WARNING  
To: info-hams@ucsd.edu

/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\

POTENTIAL MAJOR FLARE WARNING

/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\

April 14, 1991

ATTENTION:

Region 6583 has developed a beta-gamma-delta magnetic configuration and is continuing to grow in size and complexity. Some fairly good shear also exists in this region, which has resulted in several M-class flares over the last couple of days. This region (located at N09E34) is now moderately large, and contains 57 spots in an EKI optical configuration. This region could spawn a major class M or X flare anytime now. It could also produce frequent low level M-class flares. Potential proton activity from this region is not yet a great threat, although the risk is increasing daily should a major proton flare erupt from this region.

Region 6580 (N29W10) has also developed a clear delta configuration in its spot complex, and is also exhibiting growth and increased complexity. This region is capable of spawning low-level M-class flares and may become capable of producing more intense major activity soon, if growth continues.

Region 6555 (the major activity center responsible for seven large X-class flares and the major geomagnetic storm of 24-26 March) is showing signs of returning back into view on the east limb. Surging was observed on the southeast limb near 12 degrees south solar latitude. Extensive plage is also visible in that vicinity.

An optically uncorrelated class M3.1 x-ray burst was observed beginning at 08:41 UT, peaking at 08:52 UT and ending at 10:07 UT. This long-duration event could have been produced by returning Region 6555 (which will be given a new number shortly). We should know within the next 48 hours whether this region has decayed significantly or not since it disappeared from view around the west limb on 31 March.

Watch for possible major flare alerts.

/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\

-----

Date: 15 Apr 91 04:23:42 GMT  
From: usc!samsung!muninari.oz.au!manuel!ccadfa!sserve!news@ucsd.edu  
Subject: Shuttle Packet No-Show  
To: info-hams@ucsd.edu

-----

Date: (null)  
From: (null)  
For the interest of the net, one amateur here in the Australian Capital Territory, VK1DF, received a beacon packet from STS37 on the first day of

the mission.

I have not heard of anyone else receiving ANYTHING on packet from Atlantis.

Did anyone else receive any beacon packets from Shuttle?

Phil Clark [VK1PC]	Department of Computer Science,	Phone:
	Australian Defence Force Academy,	+61 6 268 8157
Email:	Northcott Drive, Campbell,	Fax:
pgc@csadfa.cs.adfa.oz.au	Canberra, Australia, 2600.	+61 6 268 8581

-----

End of Info-Hams Digest

\*\*\*\*\*